PLANT IMMIGRANTS

No. 121. MAY, 1916.

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194. A Davidiana peach tree in California, *Amygdalus davidiana.*

Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by Agricultural Explorers and Foreign Correspondents relative to the more important introduced plants which have recently arrived at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it as well as to others selected because of their special fitness to experiment with the particular plants imported. Do not wait for the annual catalogue entitled NEW PLANT INTRODUCTIONS in which are described the plants ready for sending out.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,

Agricultural Explorer in Charge.

January 20, 1917.

Actinidia callosa henryi Maxium. (Dilleniaceae.) 42683. Plants from Paris, France. Purchased from Messrs. Vilmorin-Andrieux & Company. A climbing plant introduced from central China by Wilson. Leaves persistent, coriaceous, lanceolate, finely dentate, 15 cm. (6 in.) long. They are bronze red when young passing into a metallic green when mature and in autumn take on a beautiful reddish color. This plant is entirely distinct from its relatives and is remarkable for the size of its leaves. Found by Wilson and Henry in western Hupeh and Szechwan as a climber reaching a height of 7 meters (23 feet), with fragrant white flowers and greenish ovoid or elongate fruit.

Alpinia exaltata (L.f.) Roem. & Schult. (Zingiberaceae.) 42799. Seeds received through Mr. W. E. Safford of this Bureau. "A plant belonging to the ginger family widely spread in tropical America. In Porto Rico it is commonly known as **Bihao** or **Vijao grande.** The broad thin membranaceous leaves usually acuminate at the apex and tapering at the base, are somewhat like those of a Canna. The inflorescence is a long simple raceme, with magenta colored or reddish-purple, peduncle and bracts, and yellow flowers. The fleshy, obovoid or oval fruit usually borne on a recurved pedicel (when mature) is black at length and yields a dye of some importance." (Safford.)

Ampelopsis leeoides (Maxim.) Planchon. (Vitaceae.) 42684. Plants from Paris, France. Purchased from Messrs. Vilmorin-Andrieux & Company. An Asiatic species introduced by Wilson, very distinct and remarkable because of its pinnate leaves, composed of five very long leaflets, pointed and shining. This plant is very vigorous, and may attain several meters in height and will cover walls and trellises well. A southern Japanese species allied to *A. megalophylla.*

Annona sp. (Annonaceae.) 42723. Seeds of **Guanavito** from San Martin de Loba, Bolivar, Colombia. Presented by Mr. H. M. Curran. "A low shrub with glossy ornamental leaves and habit of Crataegus. Fruit orange red, specimens obtained about two inches in diameter, flesh rather dry as compared with cultivated varieties. Would make a good hedge. Lowlands, in dense thickets." (Curran.)

Artemisia cina Berger. (Asteraceae.) 42682, 42791. Seeds from Russia. Presented by Dr. A. Fischer de Waldheim, Director, Royal Botanic Gardens at Petrograd, and A. Rolloff, Director Botanic Garden at Tiflis, Caucasus. The plant is a low and straggly undershrub, with erect branches, abounding in the deserts of Turkestan, where all the drug santonica is collected in July and August by native tribes. It belongs to a perplexing group of species of this difficult genus, variously regarded by different botanists as distinct species or as varieties of the polymorphic species, *A. maritima* L. The drug is composed of the dried unexpanded flower heads, and forms a yellowish green (at length greenish brown) somewhat glossy, mobile mass, having a strong and peculiar, somewhat camphoraceous odor and an aromatic and bitter taste. The drug santonin is obtained from these flowerheads, and is used as an anthelmintic especially for round worms.

Begonia sp. (Begoniaceae.) 42820. Seeds from Rama, Nicaragua. Presented by Mr. Carlos Berger. "A plant which has some resemblance to *Hydrastis canadensis*. The Indians use the rhizome as a violent emetic in case of snake bite, poisoning, etc., and it acts so strong ly that it produces the vomiting of blood in certain doses. The leaves are healing and are used in swellings and skin eruptions. It is curious that the land turtles are excessively fond of the leaves of this plant and if there are any of such turtles around you might be sure to find them near this plant." (Berger.)

Britoa acida (Mart.) Berg. (?) (Myrtaceae.) 42725. Seeds from San Martin de Loba, Colombia. Presented by Mr. H. M. Curran. "Large fruited guava-like fruit which is soft, yellow, with few seeds, very acid and juicy." (Curran.)

Buddleia nivea yunnanensis (Dop.) Rehder & Wilson. (Loganiaceae.) 42685. Plants from Paris, France. Purchased from Messrs. Vilmorin-Andrieux & Company. Of the same group as *B. variabilis*. Branches and lower sides of the leaves whitish. It is remarkable for its very beautiful, delicate mauve flowers, which have a very pleasant perfume, and are arranged in a large lengthened spike. Flowers from July to October. Height 1½ to 3 meters. Wilson says this variety is much more widely distributed than the type and is readily distinguished by its usually solitary panicle and much

larger flowers attaining 5 mm. in diameter; the leaves are usually pubescent above and vary in size and are sometimes nearly entire, coarsely serrate or sinuately toothed. From western Szechwan.

Caryopteris mongholica Bunge. (Verbenaceae.) 42776. Seeds from Madrid, Spain. Presented by the Curator, Botanic Gardens. An ornamental, woody plant grown for its lavender-blue flowers, profusely produced in the fall. The flowers are in densely clustered, axillary and in this species less numerous but larger than the commonly known *C. incana* (*C. mastacanthus*). (Adapted from Bailey, Standard Cyclopedia of Horticulture, Vol. 2, p. 679, 1914.)

Cicer arietinum L. (Fabaceae.) 42761-42764. Seed of chickpeas from Barcelona, Spain. Procured through Mr. Carl Baily Hurst, American Consul General.

Citrullus vulgaris Schrad. (Cucurbitaceae.) 42716. Seeds of **Tsama melon** from Johannesburg, Union of South Africa. Presented by Mr. J. Burtt-Davy, Botanist, Agricultural Supply Association. The famous forage melon of the Kalahari desert, which furnishes forage for cattle on the sandy plains flourishing under temperatures of 110° on almost pure sand with very low rainfall. Probably of no value for table use, but may be useful in melon breeding.

Clematis armandi Franchet. (Ranunculaceae.) 42686. One plant from Paris, France. Purchased from Messrs. Vilmorin-Andrieux & Company. A new climbing Chinese species, exceptional in its strongly persistent, coriaceous, trifoliolate, dark, shining blue-green leaves. Flowers pure white, 5 cm. across, in many-flowered axillary panicles. Flowers in April. Climbs to a height of 5 meters or more. Collected by Wilson and Henry in western Hupeh and Szechuan. Called **Wei-ling-hsien** by the Chinese in Hupeh.

Coriaria thymifolia Humb. & Bonpl. (Coriariaceae.) 42817. Seeds from Ambato, Ecuador. Presented by Professor Abelardo Panchano, Ambato Agricultural School, through the American Consul General at Guayaquil. "This Coriaria is known under the Quichua name of **pinan,** but in the northern provinces the plant is talked about as **Shanzhi** or **Zhanzhi.** Its berries are rather poisonous, eaten in some quantity, as I had reason to verify

when a boy. The bark and the roots are rich in tannin as is the case in the *C. myrtifolia* of the European shores of the Mediterranean sea. The ink obtained from the fruit has a beautiful violet color that changes to black and, within a few hours, to reddish; it has an ancient fame of being indelible, and we believe this ink would be very good if we could, by some means, fix its color. It is said that during the colonial times a Spanish ship sunk, and it was possible to save some papers after they had been under the water because they had been written with **Shanzhi** ink. It is added that there was a king's order to write with this ink all papers of importance." (Panchano.)

Cornus paucinervis Hance. (Cornaceae.) 42759. Seedlings of **Cornel** from Rochester, N. Y. Presented by Mr. John Dunbar. Shrub 1 to 3 meters tall, white flowers, black fruit. From western Hupeh and western Szechwan. (Adapted from Plantae Wilsonianae, Vol. 2, part 3, p. 577.)

Cotoneaster spp. (Malaceae.) 42689-42690. Plants from Paris, France. Purchased from Messrs. Vilmorin-Andrieux & Company. *C. crenulata* (Don) Koch. 42689. Var. *yunnanensis*. A new variety from seed received from China by Mr. Maurice L. Vilmorin, differing from the type in its greater vigor, its longer spines and its less dentate leaves. The fruits of a brighter coral red are smaller but much more abundant, and hang on the shrub until January. It attains a height of from one to three meters. *C. nan-shan,* 42690. Introduced from China by Mr. Maurice L. Vilmorin. This species is well characterized by its stiff branches and small foliage. Flowers white, fruits very large, bright red, ripening in October. Serves admirably for the decoration of rock slopes and rockeries. Height 15 to 20 cm.

Deutzia longifolia veitchii. (Hydrangeaceae.) 42691. Plants from Paris, France. Purchased from Messrs. Vilmorin-Andrieux & Company. Introduced recently from Yunnan, this new Deutzia is without doubt the one whose flowers are the largest and the most brilliantly colored. They are of a beautiful rose, with deep lilac coloring inside and out, arranged in numerous small clusters along the branches. They bloom in May. The plant is very vigorous, hardy, flowers very young and

is easily forced. It is said to be one of the most interesting novelties introduced from China recently. Received a Certificate of Merit from the National Society of Horticulture of France.

Diospyros kaki L.f. (Diospyraceae.) 42674-42675. Cuttings of two varieties of **sweet persimmon** from Okitsu, Japan. Presented by Prof. Ishiwara, Director, Government Horticultural Experiment Station. Varietal names, **Kuharu** and **Ganzan.**

Engelhardtia aceriflora (Reinw.) Blume. (Juglandaceae.) 42765. Seeds from Nice, France. Presented by Dr. A. Robertson-Proschowsky. A very tall tree, compound leaves somewhat like those of a walnut, and inconspicuous flowers disposed in drooping, spicate panicles. These are succeeded by little fruits which are about the size of a pea, each seated on the base of a three lobed, beautifully veined and coloured bract. These are often more than a foot long and hang very gracefully among the foliage. (Adapted from Lindley, Treasury of Botany, part 1, p. 451, 1899.)

Hedysarum boreale Nuttall. (Fabaceae.) 42676. Seeds from Saskatoon, Saskatchewan, Canada. Presented by Mr. W. E. Lake, University of Saskatchewan. A perennial herb with compound leaves and showy racemes of many deflexed, magenta to white flowers. Native from Newfoundland, northern New England to Alaska. Introduced for breeding experiment to produce a hardy species suitable for forage.

Juniperus procera Hochst. (Pinaceae.) 42833. Seeds of **East African cedar** from Asmara, Eritrea, Africa. Presented by the Direzione di Colonizzazione. A tall conifer, said to be 100 to 150 feet high, with straight trunk; and to yield durable and valuable timber. Native of the high mountains of British East Africa.

Liquidambar formosana Hance. (Hamamelidaceae.) 42822. Seeds of **Fung hsiang shu** from Nanking, China. Presented by Mr. John H. Reisner at the request of Rev. Joseph Baillie, University of Nanking. A Chinese **sweet gum** up to 120 feet in height, having somewhat the appearance of the sweet gum, *L. styraciflua*, but with smaller, usually three lobed leaves.

Lonicera similis delavayi (Franchet) Rehder. (Caprifoliaceae.) 42692. Plants from Paris, France. Purchased

from Messrs. Vilmorin-Andrieux & Company. A very vigorous new **honeysuckle** from western China, with long climbing branches, and lengthened, very velvety leaves. The young branches are covered their whole length with odorous flowers, at first white, then yellow, arranged in pairs and continuing to appear from June until frost, with an abundant flowering in autumn.

Malus astracanica Dum. Cours. (Malaceae.) **Apple** seeds from Leiden, Holland. Presented by the Director, Botanic Garden. This species is perhaps native of southern Russia and western Siberia. It resembles *M. pumila* in the fruit and the pubescence of the leaves, but is nearer to *M. baccata* in the form, serration and texture of the leaves and in the longer-stemmed fruits and leaves. Introduced for breeding work of the Office of Horticultural and Pomological Investigations.

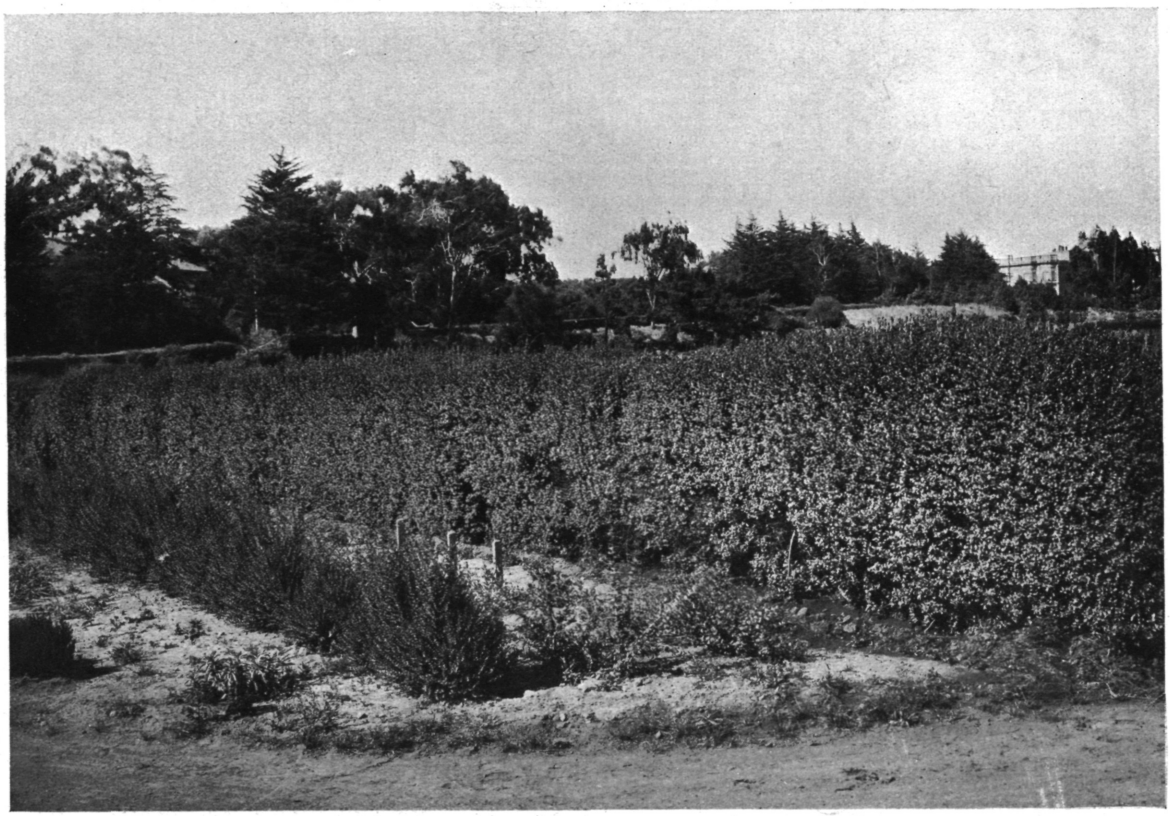
Malus glaucescens Rehder. (Malaceae.) 42760. Seedlings from Rochester, N. Y. Presented by Mr. John Dunbar.

Nephelium lappaceum L. (Sapindaceae.) Seeds from Buitenzorg, Java. Presented by Dr. & Mrs. A. Hagedoon. "One of the finest **Kapoelasans** (hairless **rambutan**). The fruits we took them from were of exceptional good taste, flesh sweet to the stone, and stone as free as any we saw; fruits very large, dark red." (Hagedoon.)

Olea chrysophylla Lamarck. (Oleaceae.) 42834. Seeds from Asmara, Eritrea, Africa. Presented by the Direzione di Colonizzazione. Small tree, noteworthy because of the drab or golden color of the under surface of the leaves; flowers small, in axillary panicles; drupe rather large and blackish, globose or somewhat ellipsoidal. Native of tropical Africa. (Bailey, Standard Cyclopedia of Horticulture, Vol. 4, p. 2333, 1916.)

Osterdamia matrella (L.) Kuntze. (Poaceae.) 42678. Roots from Taihoku, Formosa, Japan. Presented by Mr. M. Takata, Department of Productive Industries. A grass from the Far East, often known as *Zoysia pungens*, which seems to be succeeding in Florida as a lawn grass.

Oxytenanthera abyssinica (Rich.) Munro. (Poaceae.) 42835. Seeds from Asmara, Eritrea, Africa. Presented by the Direzione di Colonizzazione. A large bamboo 25

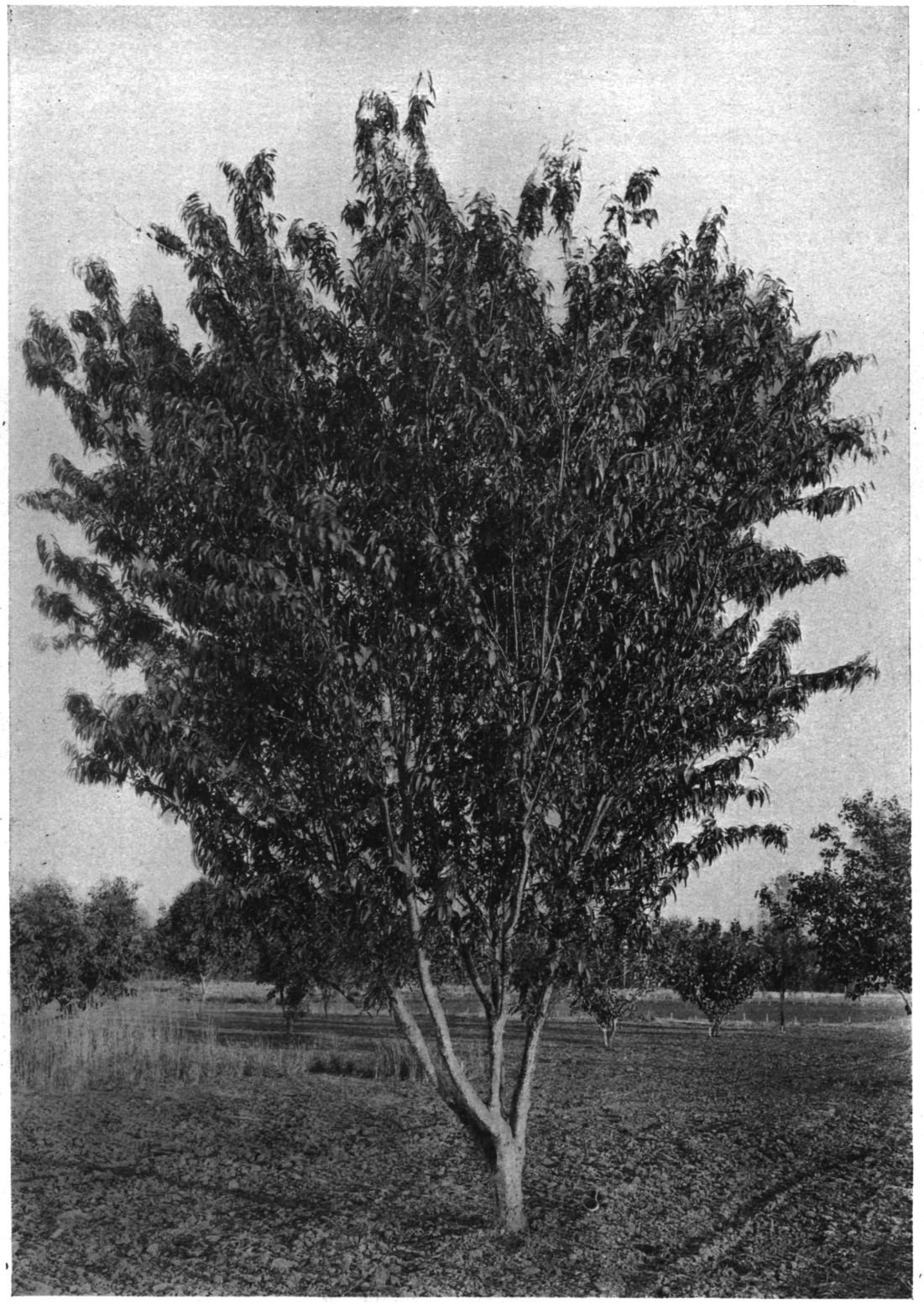


TWO RARE HEDGE PLANTS IN GOLDEN GATE PARK, SAN FRANCISCO, CAL. MYRTUS LUMA (EUGENIA APICULATA) IN BACKGROUND AND LONICERA NITIDA IN FOREGROUND.

The *Myrtus luma* is a handsome evergreen from Chile, and although it grows to 20 feet in its native habitat it lends itself admirably to trimming, and its small, glossy green leaves and dainty small white flowers combined with its compact growth make it an admirable hedge plant in the cool climate of San Francisco. It has been grown in England, but kills back at Kew. It deserves a wider trial in the Pacific coastal region.

Lonicera nitida is a dainty evergreen bush honeysuckle growing to 6 feet in height, reminding one of a privet, but having much more style than most of the privets. Its polished dark-green leaves, small fragrant creamy white flowers, and ornamental blue purple fruits, and the fact that it is hardy in Chicago and in the Arnold Arboretum, from which institution it has been distributed to some extent, make it a very promising shrub for general use. It grows easily from cuttings.

Photographed by G. Moulin, San Francisco, Cal.



A DAVIDIANA PEACH TREE IN CALIFORNIA, AMYGDALUS DAVIDIANA, S. P. I. No. 18262.

The great vigor and healthy appearance of this Chinese peach species, which is used as a stock in China, has attracted a great deal of attention among orchardists and nurserymen who have seen the trees, of which the photograph shows one now growing at the Chico Field Station. The tree shown was planted as seed in March, 1906, and is now 20 feet high and has a trunk circumference of 20 inches 1 foot from the ground. With plums, peaches, apricots, and almonds it makes a perfect union. Photographed (P19655FS) by P. H. Dorsett at Chico, Cal., May 14, 1916.

to 50 feet high and 1½ to 3 inches in diameter. Reported to have a wide range in Africa. This species has a very different appearance from the remainder of the genus, but the structure of the spiculae in all the species is very similar. For technical description see Colonel Munro's Monograph of the Bambusaceae, in the Transactions of the Linnean Society, London, Vol. 26, p. 127, 1870.

Paulownia duclouxii Dode. (Scrophulariaceae.) 42693. Plants from Paris, France. Purchased from Messrs. Vilmorin-Andrieux & Company. A recently introduced tree from Yunnan, China, differing from the common Paulownia in its white flowers, slightly rosy, and without spots. Flowers at the end of winter before the leaves appear.

Pavetta zimmermanniana Valet. (Rubiaceae.) 42767. Seeds from Buitenzorg, Java. Presented by Dr. J. C. Koningsberger, Director Botanic Gardens. A small rubiaceous tree or shrub, with opposite, nearly elliptic leaves and clusters of small, slender-tubed white flowers. "The remarkable researches of Zimmerman and Faber detailed in the Jahrbücher für wissenschaftliche Botanik, vol. 51, p. 285, 1912, and vol. 54, p. 243, 1914, make this species of unusual interest. Faber has proven that the leaves of this species of Pavetta and of several others of this genus as well as of the genus Psychotria and possibly other genera of the Rubiaceae contain colonies of a nitrogen-fixing bacteria which he names *Myco-bacterium rubiacearum*. The bacteria of this species inhabit almost invariably the micropyle of the young seed and when it germinates, although not a motile form, grow through certain stomata of the very young leaves and into the intracellular spaces formed by the leaf tissues around these stomata. Reacting one on the other, there are formed through the growth of the epidermis cells cavities which later close entirely and make bacterial knots which are deeply imbedded in the leaf tissues. A single leaf may have several dozen of these symbiotic bacterial knots. Faber was able by treating the seeds with hot water and sublimate solution to kill the inhabiting myco-bacteria and later infect part of the seedlings grown from their seeds with pure cultures of the bacterium. The artifically infected seedlings grown in soil free from combined nitrogen grew well and remained healthy for four months whereas those

not so infected turned yellowish-white and died in three or four weeks. The plants from unsterilized seeds produced leaves with many more bacterial knots on them than did those from sterilized seeds which were later artifically inoculated. In view of the fact that these Rubiaceae with bacterial knot bearing leaves occur in many parts of the tropics and that in India at least the value of their leaves for manure has long been recognized, and judging from the value of the Leguminosae as nitrogen collectors, the suggestion of Faber is well worthy of consideration, that we may have in these tropical trees and shrubs, plants of positive agricultural value for the tropical planter. Even in Florida the value of the mulch formed by the leaves of leguminous and other plants is keenly appreciated by the best cultivators and it may be possible to find suitable small shrubs of Pavetta or other Rubiaceae which will be worth while growing for their nitrogen-fixing leaf bacteria in the orange and avocado orchards of southern Florida or wherever the climate will permit of their cultivation." (David Fairchild.)

Pistacia chinensis Bunge. (Anacardiaceae.) 42823. Seeds of **Huang lien shu** from Nanking, China. Presented by Mr. John H. Reisner at the request of Rev. Joseph Bailie, University of Nanking. A tall, deciduous tree, strikingly ornamental, with large pinnate leaves, red when young, changing to vivid green in summer and flaming scarlet yellow in fall. Berries inedible. Many trees previously introduced have succeeded in the dry south west and an avenue has been planted at the entrance to the Chico Field Station.

Potentilla fruticosa vilmoriniana Komarow. (Rosaceae.) 42694. Plants from Paris, France. Purchased from Vilmorin-Andrieux & Company. Introduced from China by Mr. Maurice L. Vilmorin, this new Potentilla forms a tufted shrub, very erect, a meter in height, with silky very silvery foliage, and covered during the whole season with pale sulphur yellow flowers, larger than those of the species. Very suitable for massing in a shrubbery border.

Pyrus spp. (Malaceae.) 42779, 42796-42798. Seeds of four species of **pears** from Madrid, Spain, and Leiden, Holland. Introduced for the work of the Office of Horticultural and Pomological Investigations. 42779.

Pyrus canescens Spach. A probable hybrid between *P. nivalis* and *P. salicifolia,* between which species it is almost intermediate. This tree is very handsome in spring with its very white young leaves, which become shiny, dark green above when mature. The fruit is pale green, much shorter stock than that of *P. nivalis.* 42796. *Pyrus amygdaliformis* Villars. A large, rounded shrub or small tree, occasionally 20 feet high. Leaves very variable in shape and size; white flowers one inch across appearing in April; fruit orange-shape, about an inch across, yellowish-brown, on a short thick stalk. Not especially valuable for the garden except for its picturesqueness when old. Native of the Mediterranean region. 42797. *Pyrus nivalis* Jacq. A small sturdy tree with woolly, white young shoots and young leaves; the flowers pure white, one and one-half inches across, produced in April in conspicuous clusters. Fruit one and one-half inches or more wide, rounded, yellowish-green. This eastern European tree is very beautiful early in the season because of its pure white leaves and numerous flowers. In France the trees are cultivated for their fruits which are eaten when bletted. 42798. *Pyrus sinai* Desf. This **pear,** which is related to *P. amygdaliformis,* is supposed to have originated in Asia Minor on the Islands of the Greek Archipelago. Its leaves in spring are white with down, becoming smooth and shiny later.

Ribes spp. (Grossulariaceae.) 42739, 42749, 42780-42781. Seeds of **currants** from Petrograd, Russia, Nancy, France, and Madrid, Spain. Introduced for the work of the Office of Horticultural and Pomological Investigation. 42739. *Ribes graveolens* Bunge. 42749. *R. lobbii* A. Gray. 42780. *R. flavum* Berland. 42781. *R. multiflorum* Kitaibel.

Rodgersia aesculifolia Batalin. (Saxifragaceae.) 42695. Plants from Paris, France. Purchased from Messrs. Vilmorin-Andrieux & Company. A vigorous plant newly introduced from China, with large rhizomes and slender petioles supporting six large umbellate, oval leaves, heavily veined and of a beautiful dark green, resembling those of the chestnut. Flowers white, in a long panicle, 75 cm. long, appearing in June. Flourishes in cool, half-shaded, peaty soils.

Rubus spp. (Rosaceae.) 42750-42757, 42766, 42782-42789. Seeds of 17 species of Rubus from Nancy, France,

Amsterdam, Holland, and Madrid, Spain. Introduced for the work of the Office of Horticultural and Pomological Investigations. Most of them are unusual European species rarely grown except in botanical gardens. 42750. *R. discolor* Weihe & Nees. 42751. *R. fastigiatus* Weihe & Nees. 42752. *R. godronii* Lecoq & Lamotte. 42753. *R. hirtus* Waldst. & Kit. 42754. *R. lejeunei* Weihe & Nees. 42755. *R. nitidus* Weihe & Nees. 42756. *R. rudis* Weihe & Nees. 42757. *R. wahlbergii* Arrhenius. 42766. *R. ulmifolius bellidiflorus* (Koch) Focke. 42782. *R. hoffmeisterianus* K. & B. 42783. *R. inermis* Pourr. 42784. *R. leucostachys* Schleicher. 42785. *R. lindleyanus* Lees. 42786. *R. rhamnifolius* Weihe & Nees. 42787. *R. sanctus* Schreber. 42788. *R. thyrsiflorus* Weihe & Nees. 42789. *R. vestitus* Weihe & Nees.

Solanum bullatum Velloso. (Solanaceae.) 42815. Seeds from Lavras, Minas, Brazil. Presented by Mr. Benjamin H. Hunnicutt, Director, Instituto Evangelico, Escola Agricola. "**Capoeira branco.** Relished by cattle as well as by horses. It seems to have no poison effect whatever on the stock eating it." (Hunnicutt.) A South American plant which may possibly be valuable as a forage plant because of its large per centage of protein. The analysis of the leaves and branches shows 20.88 per cent of protein in the leaves and 14.06 per cent of protein in the branches.

Syringa giraldii Sprenger. (Oleaceae.) 42696. Plants from Paris, France. Purchased from Messrs. Vilmorin-Andrieux & Company. Originally from the north of China, this **lilac**, which is still little known, is chiefly remarkable for its early flowering which takes place in Paris at the beginning of April. The beautiful flowers are white, slightly marked with lilac, in loose thyrses and as odorous as those of the common lilac. It reaches a height of three to four meters.

Viburnum spp. (Caprifoliaceae.) 42697-42698. Plants from Paris, France. Purchased from Messrs. Vilmorin-Andrieux & Company. 42697. *V. carlesii* Hemsley. A Korean shrub recently introduced and little known, reaching a height of about a meter, of open habit. With opposite subsessile, rounded pubescent, deciduous leaves, and very odorous white flowers, flushed with rose, in terminal umbels, appearing in May. Flourishes in cool, semishady places with little lime and forces very easily; recommended for border for mass plantings of rhododendrons and azaleas. 42698. *V. davidii* Franchet.

Introduced from China through the efforts of Mr. Maurice L. Vilmorin, this new Viburnum is one of the most distinct and most remarkable of the genus. It is a low plant, entirely hardy, with large persistent, shining leaves resembling those of a rhododendron, the shoots of the year terminating in an umbel of white flowers, appearing in April. These flowers are succeeded by steel-blue fruits, ripening in autumn. It attains a height of from 25 to 50 cm. and flourishes in shady, peaty soil. Received a Certificate of Merit from the National Society of Horticulture of France in 1913.

Vitex lucens T. Kirk. (Verbenaceae.) 42790. Seeds of **Puriri** from Avondale, Auckland, New Zealand. Presented by Mr. H. R. Wright. A fine tree, from 50 to 60 feet in height, often called the New Zealand Oak on account of the strength and durability of its timber. It is not injured by damp or exposure, and is therefore extremely valuable for ship-building purposes. The logs are often perforated with large holes, but these do not affect the timber, except in so far as it has sometimes to be cut to disadvantage. These holes are made by a soft-bodied grub, which develops into the puriri moth. The leaves of the puriri are handsome, being of a bright, glossy green, the leaflets 3 to 4 inches long. The flowers are in axillary panicles, 4 to 8 together, pink or red, irregular in shape, and with exserted stamens. The roots of the puriri never penetrate deeply into the ground, but lie near the surface, so that the tree is easily blown over in a gale of wind. It is endemic in New Zealand, and is restricted to the northern part of the North Island. It is easily cultivated, and flowers more or less all the year round. (Laing & Blackwell, Plants of New Zealand, p. 350.) "The New Zealand **Puriri** is one of the most handsome trees in cultivation, and worthy of more extensive planting. It transplants well, grows rapidly, and makes a compact tree of symmetrical bushy form, with bright glossy green foliage. It is one of the New Zealand hardwoods used for railway sleepers and is very durable. The berries when ripe, resemble cherries, which all tend to add to its beauty." (Wright.)

Staff Announcements.

Dr. B. T. Galloway, whose resignation from the position of Dean of the College of Agriculture at Cornell University has been announced in the papers, has returned to the Department and has taken charge of two important investigative projects in the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry.

Believing that he has done his share of administrative work and earned the right to pursue studies in agriculture of a purely investigative character, Dr. Galloway has taken hold of the following projects in this Office, viz.:

The *Protection and Propagation of New Plant Introductions* and *Plant Introduction Surveys.* The former project covers a wide field of research, which has in recent years become a necessity owing to the operation of the Act creating the Federal Horticultural Board. The problems are those connected with the production from suspected or diseased plant material brought in from abroad of perfectly healthy young plants suitable for distribution throughout the country. To facilitate this work a special laboratory is being erected adjacent to the inspection house and quarantine enclosure on the Mall and Dr. Galloway expects to occupy this laboratory upon his return from an extended trip which he is now making through the West. This trip is for the dual purpose first of making an investigation of the Plant Introduction Field Stations of the Bureau to ascertain what increased facilities will be required to make them more effective, and second of making a preliminary survey of the plant introductions which have been made into that territory and the possibility of further expansion of their cultivation as plant industries. This latter study is preliminary to the development of Dr. Galloway's second project, which involves the bringing together in a comprehensive way for practical use of all the available information which is required for the organization and successful maintenance of new plant industries brought about through the introduction of new foreign seeds and plants.

Dr. Galloway's itinerary has taken him through Canada, where he has studied the progess of the plant introduction work which was so well begun by Dr. William Saunders. It will take him through to the Puget Sound Region and down the Pacific Coast to southern

California and thence east through the Middle West and south through the Gulf Coast States and into Florida. It will include visits to all the Field Stations of the Office and numerous State Experiment Stations and private experimenters in plant introduction. He is expected back some time in November.

Dr. Galloway assumes his old title of Plant Pathologist, which he retained during all the years of his connection with the Bureau of Plant Industry.

Mr. Frank N. Meyer, Agricultural Explorer of the Office of Foreign Seed and Plant Introduction, who returned last October from a three years' stay in Northwestern China, has finished the writing of his reports and the arranging of his material here in Washington and has sailed for his third Chinese expedition and his fourth into Asia.

It is expected that he will continue his work on the northern fruits and vegetables of China and extend his explorations into the provinces south of the Yangtze River, which is still, so far as plants are concerned, almost an unknown region.

The climate of these provinces which approach the tropics, resembles that of the South Atlantic and Gulf States and although temperatures do not go so low there as they do in our Gulf Region, frosts occur and many plants, it is believed, will be found there which will thrive as far north as the Carolinas.

The hardiness of the giant edible bamboo (a native of South China) in Louisiana and as far north as Savannah is an indication of the possibility of finding important new plants in South China, where we have records already of edible fruited oaks, slightly frost-resistant litchis, southern pears, plums and grapes, and vegetables especially suited for marsh or pond culture.

It is expected that Mr. Meyer will remain in this region about three years and arrangements have been made for him to cooperate with the Philippine Bureau of Agriculture in the handling of such new tropical plant material as he may discover.

Mr. Wilson Popenoe, Agricultural Explorer of the Office, is now in Guatemala investigating the wild plant possibilities of the uplands of that interesting region where many new fruit species and varieties are yet to be discovered which should be brought into culture throughout the tropics. Such fruits and vegetables as the Sapote, Avocado, Annona, Chayote, and many others will be studied by Mr. Popenoe.

United States Department of Agriculture.
Bureau of Plant Industry.
Office of Foreign Seed and Plant Introduction.
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Scientific Staff.

David Fairchild, Agricultural Explorer in charge.
P. H. Dorsett, Plant Introducer in charge of Plant Introduction Field Stations.
B. T. Galloway, Plant Pathologist.
Peter Bisset, Plant Introducer in charge of Foreign Plant Distribution.
Frank N. Meyer and Wilson Popenoe, Agricultural Explorers.
H. C. Skeels, Botanical Assistant, in charge of Collections.
S. C. Stuntz, Botanical Assistant, in charge of Explorers' Notes, Foreign Correspondence and Publications.
R. A. Young, Botanical Assistant, in charge of Dasheen and Tung Oil Investigations.
G. P. Van Eseltine, Assistant, in charge of Label Catalogue, and Office Herbarium.
Nathan Menderson, Assistant, in charge of Chayote Investigations.
David A. Bisset, Assistant in Plant Introduction.

Staff of Field Stations.

R. L. Beagles, Farm Superintendent in charge of Chico, Calif., Plant Introduction Field Station.
H. Klopfer, Plant Propagator.
J. M. Rankin, Assistant Farm Superintendent, in charge of Rockville, Md., (Yarrow) Plant Introduction Field Station.
Edward Goucher, Propagator.
Edward Simmonds, Gardener and Field Station Superintendent in charge of Miami, Fla., Plant Introduction Field Station.
J. E. Morrow, Assistant Superintendent, Brooksville, Fla., Plant Introduction Field Station.

Collaborators.

Mr. Aaron Aaronsohn, Haifa, Palestine.
Mr. Thomas W. Brown, Cairo, Egypt.
Mr. H. M. Curran, Laurel, Md.
Mr. M. J. Dorsey, University Farm, St. Paul, Minn.
Dr. Gustav Eisen, California Academy of Sciences, San Francisco, Calif.
Mr. E. C. Green, Serviço do Algodao no Brazil, Rio de Janeiro, Brazil.
Mr. A. C. Hartless, Saharanpur, India.
Mr. E. J. Kraus, University of Chicago, Chicago, Ill.
Mr. Barbour Lathrop, Chicago, Ill.
Miss Eliza R. Scidmore, Yokohama, Japan.
Mr. Charles Simpson, Little River, Fla.
Dr. L. Trabut, Director, Service Botanique, Algiers, Algeria.
Mr. E. H. Wilson, Arnold Arboretum, Jamaica Plain, Mass.